Subject: Re: IDL/ENVI SPOT-5 Level 1a (DIMAP format) - simple(?) gain problem
Posted by Maxwell Peck on Sun, 22 Aug 2010 21:15:29 GMT
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On Aug 23, 2:31 am, D2 <dennis.d...@gmail.com> wrote:
> Hi all,
>
> It's a Sunday afternoon and I'm pulling my hair out trying to do
> something I thought was going to be relatively easy, but instead has
> turned into a bit of a nightmare for a beginner at IDL/ENVI.
>
> I've got a geotiff of SPOT-5 level 1a imagery that I bring in by
> opening up the supplied *.DIM file so that I get most of the important
> metadata (e.g., band wavelengths, standard gains and offsets, etc).
>
> So, the question is this: how can I apply separate gains and offsets
> to each of my 4-bands, and then write those new results together into
> a separate file, or even the original file? In other words, the
> original file + 4 new "bands" added to it, or new file (with all
> projection metadata, etc. intact) with 4 new band).
>
> The original file is in 8bit "digital number" (aren't they all
> "digital"?? heh.) and I'm calculating 32-bit floating point values, so
> it's your standard "radiometric calibration" process.
>
> I've tried using the "apply gain and offsets" module, but that
> multiples when I want to divide values. I've also tried using band
> math, but I seem to be only able to apply one equation to one band at
> a time, and then it only outputs the results to a single file. I'd
> like to apply 4 separate equations to their respective bands, and then
> output these new results to a single file, or just write them into the
> original file.
>
> There's a user submitted code on the ENVI user forum that basically
> does what I need to do (calibrate_spot.sav), but I'd like to get under
> the hood to tweak parameters and begin to teach myself to understand
> IDL. What I'm looking to do is apply my own custom gains and offsets
> instead of using those supplied in the metadata file.
>
> I do want to learn, and I'm eagerly awaiting my Morton Canty book to
> arrive, but I'd like to make some headway on this now.
>
> Any pointers (and sample code) would be immensely appreciated!
>
> Cheers,
>
> Dennis

From memory the gain/offset routine applies them in the 'remote sensing' sense, that is GAIN* (DN - OFFSET) . If you adjust your offset accordingly the routines will do what you want.